



# **Tenth Annual Executive Forum on Modeling and Simulation**

**May 29-31, 2001**

## **Joint Modeling and Simulation System (JMASS) Program Brief**

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ESC/CXC**



# ESC's Role

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- **Designated Acquisition Commander (DAC) responsibility is transferring to Electronic Systems Center, Hanscom AFB (pending formal SAF/AQ approval)**
  - **Further consolidates ESC/CC DAC Enterprise Management responsibilities--provides synergy with other existing ESC M&S programs**
  - **Joint Program Office to remain at Wright-Patterson AFB**



# System Description

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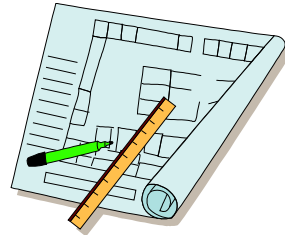
- **JMASS is an Air Force led joint program that provides an integrated systems-level software architecture product that supports DoD modeling and simulation analysis**
  - **Architecture consists of interface standards, tools and services that outline a set of guidelines for building JMASS compliant models (red, blue and environment)**
  - **Provides standard structure for designing and executing simulations and their component models**



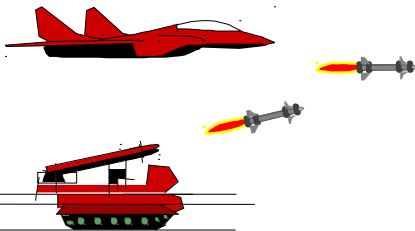
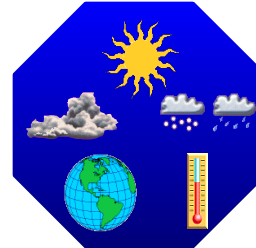
# System Description

## The JMASS System

**Legacy  
Model  
Functions**



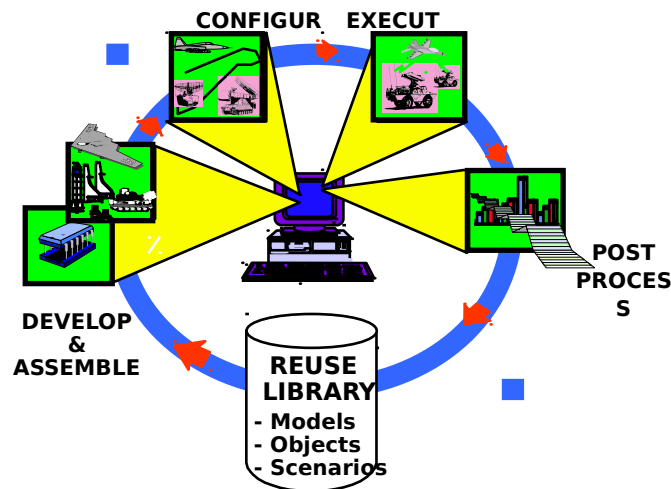
**Environments**



**Red Threat  
Models**



**Blue Models**



**JMASS architecture facilitates model development & simulation configuration/execution**



# Benefits of JMASS

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- **Fosters greater model reuse and interoperability**
  - **Models interchangeable across joint warfare domains**
  - **Changes to one model do not impact validity of other models in same simulation**
  - **Allows multiple model fidelity levels with consistency throughout**
- **DIA-validated threat models available**

**No other COTS/GOTS software package meets the JMASS requirements**



# **Program Status**

## **“Quick Look”**

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- **JMASS 5.1 final delivery--Jun 01**
  - **Incorporates high fidelity RF environment, real time execution on SGI platform**
  - **Supports Initial Operational Capability (IOC) demonstrations (Jun-Sep 01)**
    - **Tri-Service weapon system engagement scenarios using JMASS-compliant Blue and DIA-validated threat models**
    - **HLA interoperability patch available Jul 01**
- **JMASS contracts awarded Dec 00 to deliver final two architecture releases (JMASS 6.0/7.0). Includes:**
  - **Distributed processing**
  - **Generic real-time scheduler for use on all platforms**
  - **Generic Electronic Countermeasures player**
  - **N-point scatter in the RF environment**
  - **2D/3D contour maps for terrain, atmosphere and ocean data**
  - **Multiple usability enhancements**



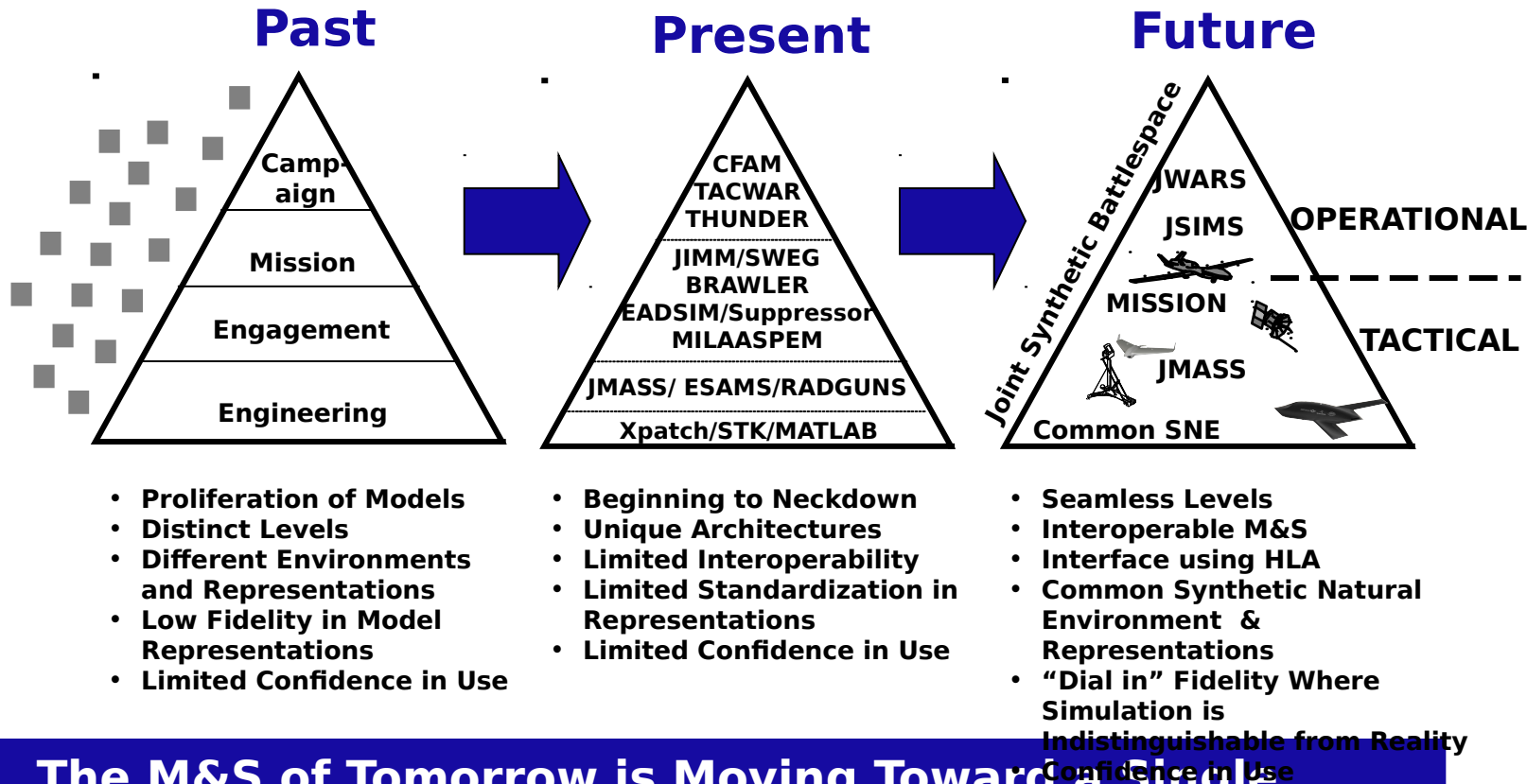
# JMASS Users

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- **Analysts**
- **Model Developers (Red, Blue, Environment)**
- **Open Air Ranges (China Lake, Edwards, Eglin)**
- **Several System Program Offices**
- **IOC Test Sites (AF, Army, and Navy)**
- **Contractors (Architecture, Tools, Models)**



# M&S of Tomorrow



**The M&S of Tomorrow is Moving Toward a Single Architecture With A Commonly Defined Synthetic Environment, Representations, and Scenarios That Allows Seamless Analyses Across the Full System Acquisition Life Cycle**





# BACKUP

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# Program Status

## Schedule (FY)

*Time Now*

ID	Task Name	1999	2000	2001	2002	2003	2004	2005
1	Milestone I/II		6/23					
2	JMASS V5.0							
42	IOC Block 1							
49	JMASS V6.0/7.0 Contract							
72	JCTF Contract (T&M)							
85	JMOOSE Contract (T&M)							
103	JTEST Contract (T&M)							
119	IOC Block 2							
124	FOC Block 3							

- IOC Block 1 decision - Dec 01
- IOC Block 2 decision - May 03
- V 6.0 release - Sep 02
- V 7.0 release - Dec 03
- FOC Block 3 decision - Nov 04



# DIA Threat Models

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- **MSIC**
  - **17 RF SAMs (analytic and EC-capable)**
    - SA-2, SA-3, SA-5, SA-6, SA-8, SA-10, SA-11, SA-12, SA-15, SA-20, ROLAND II
  - **IR SAM (SA-7) in development**
- **NAIC**
  - **Su-27, MiG-29, Rafale and associate radars and air-air missiles**
- **ONI**
  - **Anti-ship missile**
- **NGIC**
  - **ZSU 23-4**